DOCUMENT RESUME

ED 362 571 TM 020 644

AUTHOR Toomey, Fran
TITLE Community-Centered Learning: A Model for Creating a Thinking Community.
PUB DATE Aug 93
NOTE 22p.; Paper presented at the Annual Meeting of the International Conference on Critical Thinking and Educational Reform for the 21st Century (Rohnert Park, CA, August 1-4, 1993).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Classroom Techniques; College Faculty; Community Characteristics; Community Development; Graduate Students; Higher Education; *Learning; Models; Problem Solving; *Rewards; *Teaching Methods; *Thinking Skills; Undergraduate Students
IDENTIFIERS *Academic Community; *Community Centered Learning

ABSTRACT

The development of Community-Centered Learning (CCL), an approach to using the classroom as a community, is described, with the writer's experiences in using the model in three classes over a semester. A community is regarded as a group of people who share common goals and traditions, who realize their interdependence, and who strive to care for one another. In CCL the dimensions that structure the organization and operation of the classroom community are roles, rules, and rewards. The roles described by R. von Oech are expanded to result in classroom roles of conductor, explorer, artist, judge, and crusader. Rules for CCL are built on dialogue, problem solving, and practice. Rewards in CCL are those of the student's own recognition of achievement and growth. The application of the model in the writer's sophomore, junior, and graduate classrooms is described; and the difficulties are explored. One figure and five tables illustrate the model. (Contains 31 references.) (SLD)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
FRAN TOOMEY
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED 362 571

# Community-Centered Learning
## A model for creating a thinking community

Fran Toomey, Ph.D.
Associate Professor
of Education
St. Michael's College
Colchester, Vermont 05439

Theoretical underpinnings for
session proposal for
Thirteenth Annual International
Conference on Critical Thinking
and Educational Reform
for the 21st Century
Center for Critical Thinking and
Moral Critique
Sonoma State University
Rohnert Park, CA 94928

TM020644

# Community-Centered Learning:
# A model for creating a thinking community

Fran Toomey, Ph.D.
St. Michael's College
March, 1993

Learning to be a thinker is a demanding endeavor; learning to be a thinking community is an adventure, a daunting adventure! In this paper I describe the development of Community-Centered Learning (hereafter CCL), my approach to navigating that adventure! In this model, community refers to the classroom as a community. This is a model that I have been using and experimenting with in three classes during the past semester.

I have embarked on a commitment to Community-Centered Learning because I believe this approach has the power to help students develop the thinking and community skills that are needed now and will be needed in the 21st century, in a world characterized by global competitiveness, rapid change, information overload, and a quest for community (see, for example, Bennis, 1990; Clarke, 1990; Ferguson, 1980; Lynch, 1988; Peters, 1987; Provost, 1991; Senge, 1990; Toffler, 1984).

Beyond the difficulty of the task itself--developing a thinking community--the current contexts of schools and classrooms are not particularly conducive to learning, thinking, or community. Several obstacles get in the way: specifically, fear of risk taking, egocentric participation, lack of effort, low standards of performance, passivity, competitiveness, lack of ownership, nonauthentic tasks, content/process dichotomies, complexity, and grading (see, for example, Adler, 1987; Doyle, 1983; Farnham-Diggory, 1992; Gallo, 1987; Lauer, 1983; Parelius, 1987; Paul, 1989; Perkins, 1992; Perry, 1970; Ramsden, 1988; Schrag, 1987, Schwartz, 1987; Weinert, 1987; Wertime, 1979). Despite the difficulty of the task and the obstacles, I believe that learning with, for, and from the classroom community is both more natural and more powerful than learning for and by oneself, and, if structured appropriately, classroom learning can overcome these obstacles. Table 1 in the appendix gives a description of the way in which CCL teaching strategies are structured to address obstacles to learning.

In this paper, I will describe the Community-Centered approach to the development of a thinking community. I will outline the frameworks that have influenced my own thinking, the techniques that I have developed and continue to develop, and I will share the outcomes of this effort to date.

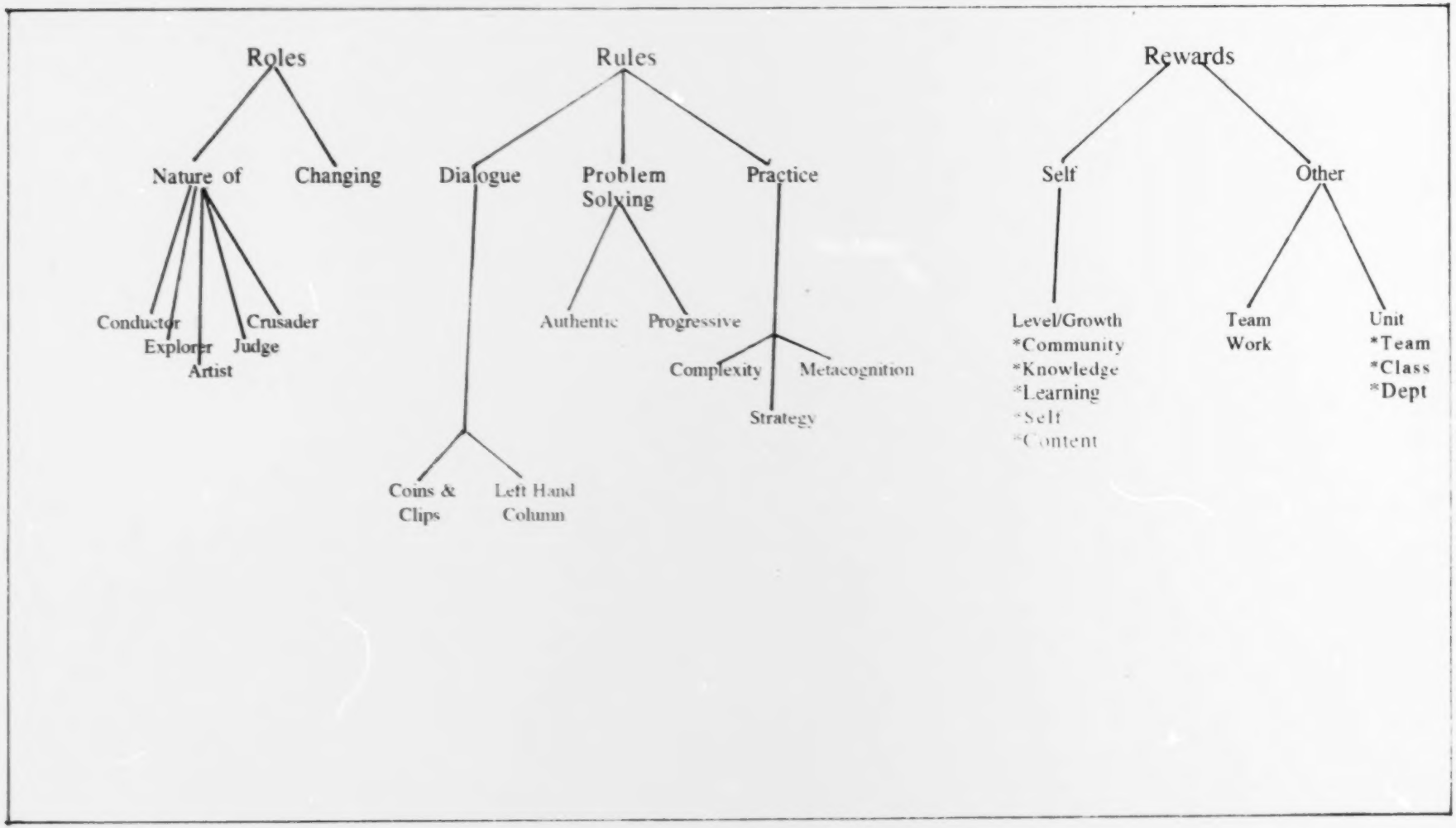
## BUILDING A COMMUNITY

There are many definitions (Bellah, et. al, 1985, 1990; Nesbit, 1953; Warren, 1972) and dimensions (space, people, institutions, values, interactions, power, social system) of community. The definition I use here is my own: a community is a group of people who share common goals and traditions, who realize their interdependence, and who strive to care for one another. Building a community is harder than I realized, and I continue to work at understanding what a community is and how it develops.

In CCL the dimensions which currently structure the organization and operation of the classroom community are: **Roles, Rules, and Rewards.** These components seem to represent the minimal amount of structure a group can have and still function as a community. Roles entail roles for thinking and for relating to one another. Rules are guidelines that are important for team learning. Rewards, ideally, come from growth as an individual and as a member of a community.

In my ongoing search for good approaches or techniques for teaching (thinking, learning, community), I have been influenced by several models. First, my concept of roles was influenced by the work of Roger von Oech on creative thinking. Secondly, several sources have influenced my thinking on rules governing learning, particularly the information processing models of Farnham-Diggory (1992), Perkins(1992), Ramsden, (1987), and Sternberg(1985). Thirdly, I also have been influenced by work in the business literature that focuses on team learning, particularly the work of Senge (1990) and Argyris (1991). Finally, my thinking about "rewards" has been influenced by the work of developmental psychologists, particularly William Perry (1970) and Rachel Lauer (1983), who look at growth in terms of the frustrations and satisfaction that come from learning and learning in the context of community. I will discuss these frameworks and the way I used them in structuring Community-Centered Learning through roles, rules, and rewards. Figure 1 illustrates the interrelationships in the CCL structure.

Figure 1. Overview of Community-Centered Learning Structure



## MODELS AND TECHNIQUES

### *Roles*

Let me begin with the work of von Oech, because it was the stimulus for the primary technique I am using to try to develop a thinking community. Von Oech's book, titled A Kick in the Seat of the Pants (1986), was designed for individuals--in business-- who wanted to improve their creative thinking. As I reviewed this book which describes thinking as a series of roles the mind plays--explorer, artist, judge, and warrior--I realized that the roles could apply to a group (or team) as well as to an individual. From this emerged the center-piece of community-centered learning-- a technique that uses teams for problem solving. In CCL teams each member of a five member group is assigned a "role" to play in a problem solving task. The first four roles--explorer, artist, judge, and warrior--were taken from von Oech's work. Because we are using those roles to facilitate thinking within a team, a fifth role--conductor--was added.

As von Oech described each of his four roles, it was evident that each role demanded a certain kind or phase of thinking. The explorer is responsible for searching out the necessary information. The artist uses the information as a point of departure to generate novel ideas. The judge weighs both the information and the ideas according to criteria--goodness, correctness, logic, consistency. It is the warrior's job to share the ideas with some "client" or wider audience of stakeholders.

To adapt the ideas to a team context and the goal of developing a thinking community, I expanded von Oech's work. The role of conductor was added. The conductor's responsibility was the functioning of the whole team and facilitating the success of individuals within the team in fulfilling their roles.
Further, I elaborated von Oech's work by specifying the nature of each role: that is, what each member was responsible for (see Table 2 for an overview). Specifically, the explorer is responsible for finding and presenting information that is complete, important, and clear, and must search for that information both within and outside of the team. The artist's responsibility is to generate ideas that will be original and challenging, using the explorer's information as a point of departure but not being constrained by that information. The judge must focus the group on the fairness and consistency of

Table 2 Role Responsibilities for CEAJC Roles

## Conductor

| FACILITATES SELF AWARENESS | | FACILITATES SUPPORT OF TEAM MEMBERS | |
|---|---|---|---|
| Encourages Recognition of Own Views, Needs, Strengths | Facilitates Role Taking | Structures Context | Provides Resources |

## Explorer

| COMPLETE | | IMPORTANT | | CLEAR | |
|---|---|---|---|---|---|
| Builds on Prior Knowledge | Consults Multiple Sources & Perspectives | Uses Credible Sources | Focused | Sense of Immediate Audience | Level of Abstraction Appropriate |

## Artist

| ORIGINAL | | CHALLENGING | |
|---|---|---|---|
| Metaphoric | Entertains Multiple Ideas | Thinking Independent of Group Influence | Optimistic |

## Judge

| FAIR | | CONSISTENT | |
|---|---|---|---|
| Makes Assumptions Explicit | Uses Criteria for Judgment | Assesses Logic of Argument | Questions Conditionality |

## Crusader

| CONVINCING | | SENSITIVE | |
|---|---|---|---|
| Communicates Well | Trustworthy | Knows Audience | Has Audience's Best Interests at Heart |

the information and ideas. The role of Crusader (a title more befitting a nonviolent group than "warrior") is to share and use the team's ideas in other contexts, requiring that s/he be both convincing and sensitive. The conductor is responsible for facilitating both self awareness and support of team members. The teams are referred to as CEAJC Teams, an acronym representing the names of the roles: conductor, explorer, artist, judge, crusader.

To develop a sense of the complementary nature of each role and an empathy for the person playing a particular role, students within each team switch roles every 3-5 weeks.

## *Rules*

A community must provide some kind of organization to facilitate the functioning of its members. In CCL the ability to function depends on learning three kinds of team building skills: dialoguing, problem solving, and practicing. These three skills represent three primary rules of learning: (1) start with an understanding participants current knowledge and beliefs (dialogue); (2) work on authentic tasks in a progessive way (problem solving); and (3) practice makes perfect (practice).

### Dialogue

Senge says that all organizations that survive in the future will be "learning organizations," made up of people who can learn together. His text, The Fifth Discipline (1990), outlines a number of skills that will be demanded of learning teams. The central skill is team building. At the heart of team building is "dialogue." Dialogue, which Senge differentiates from discussion, entails (1) acting as colleagues, (2) suspending assumptions for examination, and (3) engaging in a spirit of inquiry about "why" we believe what we believe and do what we do. In contrasting dialogue with discussion, Senge suggests that dialogue is a process wherein divergent thinking is prominent, the kind of thinking one needs to find out, to clarify, to understand in a nonjudgmental way. In the course of problem solving, Senge sees dialogue and discussion--a more convergent, action-oriented kind of thinking--in balance. In CCL, CEAJC roles are really discussion roles; they entail the more

Table 4 CEAJC Role Strategies (partial listing)

**CONDUCTOR**

*RECOGNIZE TALENT & POTENTIAL
*BE A KEEN OBSERVER OF PEOPLE AND INTERACTIONS
*STRIVE TO BE INCLUSIVE
*PROVIDE RESOURCES
*BE OPTIMISTIC & KEEP YOUR EYE ON THE GOAL

**EXPLORER**

*CREATE A MAP FOR YOURSELF
*LEAVE YOUR OWN TURF
*BREAK UP YOUR ROUTINE
*SHIFT YOUR FOCUS
*TOO MUCH IN NOT ENOUGH

**ARTIST**

*IMAGINE
*REVERSE
*COMPARE
*PARODY
*INCUBATE

**JUDGE**

*DOWNSIDE
*PROBABILITY
*OBJECTIVE
*RIPENESS
*BLIND SPOT

**CRUSADER**

*BE BOLD
*PUT TOGETHER YOUR PLAN
*CAPITALIZE ON YOUR RESOURCES
*FOLLOW THROUGH
*USE YOUR ENERGY WISELY

argumentative kind of thinking that leads to convergence and decision making.

Two techniques that we use to promote and practice dialogue are "left-hand column reflection" (a technique cited by Senge, but developed by Argiris) and "Coins and Clips." Left-Hand column reflections entail writing out "scripts" that show both what was said (right hand column) and what was thought (left hand column). The contrast enables the speaker to see the underlying assumptions and reasons for what was said. This exercize helps learners to understand their own position and why they hold that position.

"Coins and Clips" is a technique used as the group begins a problem solving session and is attempting to understand--in a nonjudgmental way--the multiple perspectives (with underlying assumptions and reasons) held by group members. As the dialogue begins, students are asked to keep track of the number of dialogue questions they ask (what do you mean?, why do you believe that?, how did you arrive at that position?) by depositing a "coin" (penny) in the middle of the table for each "what" question and two "coins" for each "why" question. These coins act as credits and, ideally, build credibility and trust among group members. When a team member makes a statement that is not a response to a direct question, he makes a debit by putting in one clip and taking out two pennies. Each team member begins with 10 coins and 3 clips and when everyone has contributed all their coins and the members agree that they understand everyone's starting point, discussion begins with all group members assuming CEAJC roles. Ideally, dialogue continues, and team members remain sensitive as to which "voice" (dialogue or discussion) they are speaking in.

Problem Solving

The dialogue/discussion in which students engage is focused on problems to be solved by the team. Problem topics correspond to course topics. Problems are chosen and sequenced so as to be authentic and increasingly more complex. Authenticity requires that problems present real dilemmas and have consequences for student's immediate or long term goals. Complexity is judged along four weighted dimensions. Although the weight of any specific problem is subjective and must be determined by each team, a coding scheme has been developed to facilitate weighting. In the coding scheme, a problem is rated from 1 (light) to 4 (heavy) on each of four

dimensions: **simple/complex** refers to the number of factors and interrelationships entailed in the problem; **inconsequential/consequential** refers to the extent to which the problem has potential long-term, systemic effects; **instrumental/expressive** refers to the degree to which the problem focus is task completion or group welfare; **value neutral/value intense** refers to the extent to which an individual's value system will be a significant factor in generating and accepting solutions. See Table 3 for an example of sample problems and weightings generated by the writer in working with a group of educators and business people.

In the problem solving process, having begun with a session of "coins and clips," students utilize CEAJC skills and strategies. Beginning with strategies outlined by von Oech (see Table 4 for examples), students literally "practice" using strategies in the process of problem solving. In a game called "rainbow thinking," students are each given a set of color-coded strategy cards for their specific roles. Each team (in my courses, usually four or five teams) "competes" to see if they can use all of their strategies in the process of solving a problem. As a team member uses one of his/her strategies, s/he throws a colored card containing the strategy on the table. As the problem solving progresses, it is easy to see if there is a "rainbow" of thinking: that is, everyone is contributing. As team members "master" their strategies, the card-throwing is no longer needed, although members can continue to use it as a way of monitoring how frequently and effectively they use their strategies. As part of the learning process, members of a team switch roles every three or four weeks to give each member experience playing the particular thinking role and using appropriate strategies.

## Practice

Practice allows us to deal with the three biggest factors influencing learning from an information processing perspective: complexity, strategies, and reflection (metacognition) (Adler, 1987; Farnham-Diggory, 1992; Sternberg, 1985; Perkins, 1992). Information processing models of learning tell us that (a) students are limited in how much they can process at any one time. (b) students need strategies in order to be independent and successful learners, (c) metacognition is the key to transfer or generalization.

Table 3. Problem Weighting Scheme

| Typical Problems/Dimensions | Simple/ Complex | Inconse./ Conseque. | Inst./ Expre. | Neutrl/ Intense |
|---|---|---|---|---|
| AIRPLANE<br>Make the world's best airplane. | 1 | 1 | 1 | 1 |
| CANNIBALS & HOBBITS<br>Get the hobbits safely across the river. | 2 | 1 | 1 | 1 |
| PLAYGROUND/EMPLOYEE LOUNGE<br>In poor repair; no funds. | 2 | 2 | 2 | 2 |
| EQUIPMENT<br>Equipment is not maintained and/or replaced. | 2 | 3 | 3 | 3 |
| HANDICAPPED ACCESS<br>Inadequate. | 2 | 2 | 3 | 3 |
| RESOURCE WASTE<br>Perishable resources are being wasted. | 3 | 3 | 3 | 3 |
| TRANSPORTATION<br>Distance causes high cost. | 3 | 3 | 3 | 3 |
| ABSENTEEISM<br>Steadily increasing over time. | 3 | 3 | 3 | 3 |
| WHISTLE BLOWING<br>A member of the organization has reported the cover-up of a potentially dangerous situation. | 4 | 3 | 3 | 4 |
| CURRICULUM/PRODUCT DEVELOPMENT<br>World economy demands new curriculum/products. | 4 | 4 | 4 | 3 |
| PUBLIC RELATIONS<br>The organization has been receiving "bad press." | 4 | 4 | 4 | 4 |
| EMPLOYEE EVALUATION/REWARD<br>There is widespread dissatisfaction with the system for evaluation and reward. | 5 | 5 | 5 | 5 |

Students are limited in how much information they can process at one time In teaching thinking, a typical issue that is relevant to complexity is the dichotomy between content and process. CEAJC team-work provides the opportunity to combine content and process in a natural but controlled way. Because each student has only one role to play, s/he can concentrate on the process relevant to that role. And, since teams start with "light-weight" problems, the student may pay more attention to process than to content in the initial stages of team-work.

Initally students are given prescribed strategies for the role playing and problem solving they are working on. Table 4 gives a list of strategies for playing CEAJC Roles. "Rainbow Thinking" and "Coins and Clips" describes two of the techniques that allow students to master discussion and dialogue skills.

While content, the solution to the team's problem(s), is important, the team's success is also judged by how well they have played their roles. Determining success requires feedback and reflection. Students reflect on their own and others' role playing in a non threatening way. There are two ways in which process (role playing) is specifically observed and assessed. (1) For some topics, there is a CEAJC feedback team that is not responsible for content but tries to evaluate another team's output in relation to the team roles: that is, did the explorer make available information that was complete, important, and clear; did the artist stimulate original and challenging ideas, etc.; (2) For certain other topics, the class assumes an inner circle/outer circle configuration, whereby members of the inner circle solve the problem and members of the outer circle coach team members in their relevant roles. Since students switch roles 3 or 4 times during the semester, they have the opportunity to reflect on how well they played the roles compared to other class members

Further, reflection on the quality of thinking by both teams and individuals on those teams is facilitated by having each team report back to the entire class on their problem solving efforts and by having students keep individual journals. Since the teams/students are working on increasingly more complex problems as the semester progresses, sharing and journalling helps them to assess their own progress, their team's progress, and the class' progress in thinking.

*Rewards*

Typically, students are rewarded in a class by high grades for individual work. In my Community-Centered approach to learning, students are encouraged to see the reward for their work as growth in themselves, their team, and in the class as a whole.

The model chosen for measuring growth in CCL is a developmental model based on the work of both Rachel Lauer and William Perry. These models, taken together, seem to bring together the three components of CCL--community, thinking, and learning.

Lauer's work suggests that one's world view (view of knowledge) reflects social development. She hypothesizes movement through five stages/world view's as one grows--egocentric, classifier, scientist, realtor, unifier. At each stage, one's world view affects the ways one approaches a problem and reflects one's sense of community. At the beginning level, the view is self-centered. At the next level, one moves to the view that people and things and ideas fit into neat, non-overlapping categories. At level three, the scientific view of learning and knowledge prevails--learning is experimenting to find the set of variables that establishes cause-effect relationship. At stage four, realtors come to realize that questions and answers are relative, dependent on the learner as well as the information. Finally, at the unity level, the individual sees the interdependence and interrelationships among all things. As one grows, one's world view reflects an increasing sense of the interdependence between knowledge and knower. Development is further characterized by the interpersonal contexts in which one is able to use a particular world view. Lauer describes the smallest unit of social interaction as a dyad, the largest, a community--on an institutional, town, or even world level. Lauer suggests that as one comes to appreciate which of the five stages of development one is operating in, one is in a better position to understand and change one's approach to problem solving and to better understand others' approaches to problem solving.

Perry describes intellectual growth in terms of the way one views knowledge and the relationship between knowledge and teacher/student roles. At the earliest levels for college students, knowledge is seen as a static "product"; teachers are supposed to play the role of answer giver and students the role of answer

receiver. As students move to higher levels they come to realize that they must find the answers themselves; they become co-learners with their teachers and other learners who are also searching for better and better answers. Concurrent with changes in the view of knowledge, students progress through stages of commitment to the work of intellectual growth, moving from compliance at the earliest stage to commitment at the highest stages.

In the CCL class, students are encouraged to reflect on their own and their team's growth. On a personal level, students are encouraged to keep a journal tracing changes in their own thinking as viewed through their ability to play a role, multiple roles, and to contribute to the growth of their teams and the class as a whole. Table 5 shows the rating scale that they are encouraged to use to evaluate their own growth. I am now considering translating this into a grading scheme that would reflect degree of growth across the semester and translate into a letter grade, since grades are a college requirement.

More informal measures such as the number of questions students ask of one another, decreasing preoccupation with grades, increasing examples of student, and particularly team, initiative could also be used as signs of growth in CCL.

## OUTCOMES

This semester I have tried to apply the Community-Centered model of learning to building a Thinking Community in three classes: one sophomore level class (Schools and Society), one junior level class (Individual Differences) and one graduate class (Development, Learning, and Individual Differences). As of this date, I will describe trends in the data.

I am inclined to say that I am learning more about thinking communities and community-centered learning than the students are. At least this is progress. Last semester I thought I could just announce that we would be a community, put people into "teams" (groups) and expect both thinking and community to happen. It did not, although many students were able to form good partnerships (dyads) and do good thinking in that unit. It was clear from last semester that students needed more structure and more guidance in functioning as teams.

Table 5 Community-Centered Learning: Criteria for Growth/Grading

| | | |
|---|---|---|
| **COMMUNITY VIEW** | | |
| 1 Self Centered | Work to promote personal needs and goals | ____ |
| 2 Partner Centered | Work to promote growth of partner as well as self | ____ |
| 3 Team Centered | Work to promote growth of team | ____ |
| 4 Class Centered | Work to promote growth of class | ____ |
| Basis for Judgement | | |
| **KNOWLEDGE VIEW** | | |
| 1 Receiving | Knowledge is getting "the" correct answer | ____ |
| 2 Comparing | Knowledge is knowing there are many perspectives | ____ |
| 3 Experimenting | Knowledge is finding the best answer through experimenting & reasoning | ____ |
| 4 Designing | Knowledge is designing the best way to find the answer | ____ |
| Basis for Judgment: | | |
| **VIEW OF CONTENT** | | |
| 1 Facts | Mastery is knowing isolated facts | ____ |
| 2 Concepts | Mastery is knowing definition of concepts | ____ |
| 3 Ideas | Mastery is knowing the interrelationships among concepts | ____ |
| 4 Generative | Mastery is using concepts/ideas as building blocks | ____ |
| Basis for Judgment: | | |
| **LEARNING VIEW** | | |
| 1 Expedient | Learning is least effort for highest grade | ____ |
| 2 Effortful | Learning is deliberate exertion of mental power | ____ |
| 3 Challenging | Learning is testing one's abilities, endurance, courage | ____ |
| 4 Committed | Learning is committing oneself to choosing to invest one's energies, care and identity in one's work | ____ |
| Basis for Judgment: | | |
| **VIEW OF SELF** | | |
| 1 Unaware | Unaware of own role in learning | ____ |
| 2 Aware | Aware of own role in learning | ____ |
| 3 Planful | Develops plans and skills to facilitate learning | ____ |
| 4 Responsible | Assumes responsibility for own learning | ____ |
| Basis for Judgment: | | |

Role. Students seemed to have an intuitive sense of the nature of CEAJC roles. The explorer, artist, judge, crusader, and conductor roles made sense to them. However, Initially they found it difficult to balance content and process and frequently reverted to ignoring their roles in order to discuss content. With the introduction of more specific guidelines (Table 2) about what each role entailed and a more controlled progression of problems, students became more adept at staying "in role."

Rules. As students began "practicing" roles, it became clear that they were not accustomed to questioning assumptions and reasons underlying ideas and opinions. Therefore, to focus on this level of communicating--dialogue in Senge's term--it was necessary to back up one step and begin each problem solving session with practicing dialogue. As new skills, like dialogue, were introduced. problem content needed to be simplified further, focusing on "light weight" problems. There continued to be constant tension between dealing with the course content and focusing on process/thinking. It may be that the process itself needs to be incorporated into the assignments directly rather than treated as a means to an end.

Rewards. This remains the most problematic dimension of the CCL structure. While reflecting on progress or growth is easy to incorporate, grading in a meaningful way that is consistent with the course philosophy is difficult. Grading by the teacher still seems to have the potential to undermine risk-taking and to foster competition; grading by the students still seems to have the potential to undermine high standards. Consequently, the grading system continues to evolve. At present three different grading systems are used in the three different classes.

In "Individual Differences", junior students are asked to grade themselves using a set of at least three criteria, one of which has been decided by the teacher and is labeled "quality." They are free to choose the other two criteria and grade themselves three times during the semester; these grades constitute 50% of their final grade. In addition, they are asked to keep journals which they will share with partners on a biweekly basis. It is expected that these sources will provide the author with good data for judging the extent to which they have grown according to the Lauer/Perry dimensions. In this class, the CCL Criteria for Growth/Grading Scale will not be used by the students.

In "Schools and Society, "the sophomore class students do a series of classroom observations in a local school and keep a journal. Since they must do this as a series of observations using a variety of theoretical frameworks, it will be interesting to note if their "knowledge view" changes. For self grading in this class, they will be asked to complete the CCL Growth/Grading Scale (Table 5) twice during the semester. This will be the equivalent of one assignment, count for 10% of their grade, and they will be given the full credit for this assignment (i. e., 10 points) so that their responses and my reactions are not biased by the grade they give themselves.

In the graduate level course students contract for an "A" grade by doing a number of individual (50% of grade) and team (50% of grade) assignments. The assumption is that everyone will complete their work and that the work will be of a quality to warrant an A. For self evaluation/reflection during the last class, they will simply be asked to write a short essay during the last class on how their view of learning has changed over the semester. I will evaluate their essays according to the CCL growth/grading criteria.

## *Conclusions*

Obviously, the context here--an ongoing class--demands action research rather than a controlled experiment. Data collection is constrained by the need to put learning first and by my continuing development of the CCL model. As I progress, questions continue to emerge. Does the CCL model differ so much from the students' schema for what a class is supposed to be that the model/approach is incomprehensible to them? Should all course requirements be team projects? What differences will emerge across levels (sophomore, junior, graduate)? Is any kind of teacher-grading incompatible with this kind of teaching?, with creating a community? Given their own level of development, will students find the CCL growth/grading criteria comprehensible?

Table 1 Techniques for Community-Centered Learning

| Techniques | Problems Addressed |
|---|---|
| **ROLES** | |
| Role Taking and Role Switching | Egocentric Thinking |
| *Assume a particular thinking role: C, E, A, J, CR | Fear of Risk Taking<br>Passivity |
| ^use appropriate skills | |
| ~C: self aware; team support | |
| ~E: complete, important, clear | |
| ~A: original & challenging | |
| ~J: fair & consistent | |
| ~Cr: convincing & sensitive | |
| ^use appropriate strategies | |
| ^switch roles to gain multiple perspectives | |
| **RULES** | |
| Dialogue/Discussion Balance | |
| *Practice discussion skills i.e., CEAJC roles | Competitiveness<br>Fear of Risk Taking |
| *Begin problem solving session with dialogue | Passivity<br>Egocentric Thinking |
| *Monitor "voice" (dial vs discussion) | |
| Progressive Problem Solving | |
| *Choose a "light weight problem" initially | Lack of/low standards<br>Lack of ownership |
| *Practice problem solving | Nonauthentic problems |
| *Choose topics/content relevant to current student role and future role as teacher | Content/process dichotomy<br>Complexity<br>Low effort |
| **REWARDS** | |
| Reflection | |
| *Inner/Outer Circle Coaching of CEAJC Roles during problem solving | Low effort<br>Lack of standards<br>Risk taking |
| *CEAJC Feedback Roles | Competitiveness |
| *Report back to other teams on problem solving progess | Control issues/grading<br>Lack of ownership |
| *Journal/Journal Sharing Tracing own growth | |
| *Self Grading using criteria | |

## References


Alder, J. (1987). On resistance to critical thinking. In D. Perkins, J. Lockhead, & J. Bishop(Eds.), Thinking. Hillsdale: Lawrence Erlbaum.

Argyris, C. (1991). Teaching smart people how to learn. Harvard Business Review, May-June, 99-109.

Bennis, W. (1990). Why leaders can't lead: The unconscious conspiracy continues. San Francisco: Jossey-Bass Publishers.

Borysenko, J. (1990). Guilt is the teacher, love is the lesson.. NY: Warren Communications Co.

Bellah, et. al., (1985). Habits of the Heart. Berkley: U. of California Press.

Belllah, el. al., (1991). The Good Society. New York: Alfred A. Knopf

Clarke, J. H. (1990). Patterns of thinking. Boston: Allyn and Bacon.

Doyle, Academic Work, 1983

Farnham-Diggory, R. (1992). Cognitive processes in education. New York: Harper Collins..

Ferguson, M. (1980). The aquarian conspiracy. Los Angeles: J. P. Tarcher.

Gallo, D. (1987). Empathy, reason, and imagination: The impact of their relations on education. In D. Perkins, J. Lockhead, & J. Bishop (Eds.), Thinking. Hillsdale: LEA.

Lauer, R., "An Introduction to a Theory of Adult Development or, After Piaget, What?" In M. Levy (Ed.), Research and Theory in Developmental Psychology, Irvington, New York , 1983, NY State Psy Association.

Lynch, D., & Kordis, P. L. (1988). Strategy of the dolphin. New York: William Morrow & Co.

Nesbit, R. A. (1953). Quest for community. New York: Oxford U Press.

Nickerson, R. S., Perkins, D. N., & Smith, E. E. (1985). The teaching of thinking. Hillsdale: LEA.

Parelius, R J & PARELIUS, A. (1987). The sociology of education. Englewood Cliffs: Prentice-Hall.

Paul, R. (1989) Critical thinking handbook: Grades 6th-9th. Rohnert Park, Ca. Center for Criical Thinking and Moral Critique.

Perkins, D. (1991) Educating for insight. Educational Leadership, 49, 4-8.

Perry, W. (1970). Forms of intellectual and ethical development in the school years. New York: Holt Reinhart and Winston.

Peters, T. (1987). Thriving on chaos: Handbook for a management revolution. New York: Knopf.

Provost, P. (1991). Cooperation: Learning and the new leadership paradigm of collaboration. Master's Thesis. St. Michael's College at Colchester, Vt.

Ramsden, P. (1988). (Ed.) Improving learning. New York: Nichols.

Schrag, F. (1987). School as a place for thinking In D. Perkins, J. Lochhead, & J. Bishop (Eds.). Thinking. Hillsdale: LEA.

Schwartz, R. (1987) Critical thinking, the curriculum, and the problem of transfer. In D Perkins, J. Lochhead, & J. Bishop (Eds.), Thinking. Hillsdale: LEA.

Senge, P. (1990). The fitth discipline.. New York: Doubleday.

Sternberg, R. (1985). Beyond IQ: The triarchial model of intelligence. Cambridge: Cambridge University Press.

Tofler, R. (1984). The third wave. New York: Bantam.

von Oech, R. (1986). A kick in the seat of the pants. New York: Harper & Row.

Wertime, R. (1979). Students, Problems, and 'Courage Spans. In J. Lochhead and J. Clement (Eds.), Cognitive process instruction. Philadelphia: The Franklin Press.

Weinert, F. W., & Kluwe, R. H. (Eds.). (1987). Metacognition, motivation, and understanding. Hillsdale: LEA.

Warren, R. L. (1972). The Community in America. Chicago: Rand McNally.